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CF 188 GLOBAL RIGID SEAT
SURVIVAL KIT (RSSK)

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OF ENVIRONMENTAL MEDICINE

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CF188 GLOBAL RIGID SEAT SURVIVAL KIT (RSSK)

J.A. Firth
J.C. Steffler

Defence and Civil Institute of Environmental Medicine
1133 Sheppard Avenue West, P.O. Box 2000
Downsview, Ontario M3M 3B9

DEPARTMENT OF NATIONAL DEFENCE - CANADA

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ABSTRACT

As a consequence of ongoing tasking by National Defence Headquarters, Directorate of Aerospace Support Engineering, the Medical Life Support Division (MLSD) of this Institute (DCIEM) developed and qualified for operational use an "Interim" (Maritime) Rigid Seat Survival Kit (RSSK) now installed in Canada's new fighter aircraft, the CF188. As a follow-up to meet an urgent operational requirement a "Global" RSSK has now been finalized.

The Global Kit contains a vacuum packed one-man liferaft, Canadian Forces survival equipment to an approved scale and an arctic survival sleeping bag pressure/vacuum packed in a thermoplastic radio frequency sealed package to specified MLSD dimensions.

Static deployment tests of the Global RSSK were finalized within DCIEM facilities. One dynamic (para-sail) deployment of the Global prototype concept was conducted in conjunction with the Canadian Forces Survival Training School, Sea Survival Detachment, CFB Comox BC during August 1982 and again in September 1983. Qualification for flight was achieved in July 1984, of the final configuration for the Global RSSK, following three successful para-sail deployments, using the same resources.

The Global RSSK contents were successfully deployed, airborne inflation of the vacuum packed liferaft was achieved, the sleeping bag remained sealed in its container, all survival equipment was retained on all deployments. This RSSK is therefore considered qualified for operational use in the CF188A/B aircraft.

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CF-188 GLOBAL RIGID SEAT SURVIVAL KIT (RSSK)

ERRATUM:

Introduction - line 9 1600 cm^3

Page 2 b. CF-188 Global RSSK Packing Procedures - line 9 CO_2

Page 10 Annex A to DCIEM 85-R-05

ADDENDUM:

Page 10 Last line - add:

Nil Desalter Kit Sea Water (modified) PG 1 with ea. two desalting briquettes

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Downsview, Ontario M3M 3B9

4. To devise packing procedures which would allow all RSSK contents to be packed and the upper container (lid) closed and locked without imposing stress on the RSSK locking mechanism.

5. To confirm the effectiveness of CF188 Global RSSK deployments (static-in-house) and dynamic (airborne) during "over water" para-sail descents).

METHODS

RIGID SEAT SURVIVAL KIT

a. Description/Function of the CF188 RSSK (Global)

The East-West Industries SKU-5/A Rigid Seat Survival Kit (CF188 RSSK) is intended for use in the SJU-9/A and SJU-10/A ejection seats (Figure 1). The kit is composed of a two piece bonded fibreglass container. The lower portion of the kit contains the survival equipment including the pressure/vacuum packed sleeping bag and the vacuum packed one-man liferaft. The contoured upper portion of the kit (lid) with a seat cushion attached to the top, contains a 50 cubic inch (820cm^3) emergency oxygen supply. Flexible oxygen and communication hose assemblies on the aft left corner of the upper container interface with the seat occupant and the aircraft oxygen and communication systems. In the event of an aircraft oxygen system failure, emergency oxygen is supplied by manual activation of the Kit Oxygen D Ring. During ejection the oxygen/communications hose separates from the aircraft, emergency oxygen is automatically activated and oxygen is delivered to the seat occupant via the harness-mounted diluter demand oxygen regulator. The RSSK is secured to two quick release fittings on each side of the simplified combined harness by two arrowhead connectors attached to fixed length straps on each side of the upper container. The upper end of the kit drop line locks into a quick release connector on the occupants life preserver or CF188 bandoleer, if worn. On operation of the kit release handle in an emergency involving parachute descent, the drop line secures the sleeping bag, liferaft and survival contents container to the occupant when the RSSK top and bottom containers are separated.

b. CF188 Global RSSK Packing Procedures

The successful packing of the Global RSSK is entirely dependent on proper vacuum packing and meticulous attention to detail, in order to ensure that the survival sleeping bag, the CF one-man liferaft and the survival contents container will fall free on the drop lanyard on kit deployment during a parachute descent.

In packing the CF one-man liferaft (NSN 4220-21-846-5886), standard folding procedures, as outlined in CFTOs C-22-305-000/MF 000 Section 3 and C-22-108-000-MF 000, would be followed, maintaining width of the fold to the length of the liferaft CO_2 cylinder. The CO cylinder must be kept flat with no liferaft material over it and a minimum of liferaft material under it. (This is most important to ensure that when the RSSK upper container is closed, the 50 cubic inch emergency oxygen cylinder must not touch the

INTRODUCTION

The Medical Life Support Division (MLSD) was tasked (1) to identify the survival contents required for the CF188 Rigid Seat Survival Kit (RSSK) and devise requisite packing procedures. The survival contents were to reflect what the operators would like to see in the kit, in order of priority, with the CF one-man liferaft taking precedence over the CF lightweight sleeping bag (2).

MLSD evaluation of the RSSK (Figure 1) indicated that the packing volume available for survival equipment was only 1000 cubic inches (1600 cm). To gain maximum use of the RSSK internal space limitations reduced by the installation of the emergency oxygen system on the underside of the kit upper container (lid), a vacuum packing procedure using a "tear away" vinyl covering was successfully developed to reduce the packed volume of the CF one-man liferaft (Figure 5). MLSD were thus able to optimize the RSSK contents requested by the tasking agency and authorized by NDHQ (3,4,5) as the CF188 Interim RSSK. This kit was fully qualified for operational use (7) and is presently flown in CF188 aircraft operating out of CFB Cold Lake, Alberta.

Further tasking (6) on a priority basis has resulted in the MLSD development of a CF188 Global RSSK, containing a vacuum packed one-man liferaft, a pressure/vacuum packed arctic survival sleeping bag and CF survival equipment. (See Annex A.) The Northface CF600 sleeping bag, supplied by H. Koch & Sons was selected as the only type which would meet the tasking requirement.

One dynamic (airborne) deployment of the CF188 Global RSSK concept was successfully conducted with the cooperation and assistance of the CF Survival Training School, Sea Survival Detachment, CFB Comox BC during August 1982 (7) and another successful dynamic deployment was conducted during September 1983. Three successful CF188 RSSK airborne deployment trials were again conducted with the cooperation and assistance of the CFSTS Sea Survival Detachment during the period 9 - 13 July 1984.

OBJECTIVES

The objectives of the MLSD research and development were:

1. To establish a minimum vacuum packed configuration for the NSN 4220-21-846-5886 CF one-man liferaft.

2. To identify a sleeping bag which would maintain a downed airman euthermic, sleeping for four hours at -35 degrees Celsius and which could be pressure/vacuum packed to the dimensions 14" x 9.5" x 1.75" (35.5cm x 24cm x 4.5cm).

3. To design a survival contents bag which, in the RSSK, would successfully interface with the pressure/vacuum packed sleeping bag and vacuum packed liferaft.

liferaft CO_2 cylinder.) The liferaft dimensions, when vacuum packed, must not exceed 11.5" in length, 9.5" in width, and 2" in height at the CO_2 cylinder operating head.

The CO_2 cylinder operating head lanyard is in keeping with the CF standard attachment lanyard for liferaft retention and inflation after deployment. The lanyard is attached to the drop line using a double loop of 550 cord then tying with a double reef knot and securing the ends with tape. Prior to vacuum packing, it will be necessary to manufacture a 12 mil thickness vinyl bag as per Figure 2. The bag is then sealed using an Audion Electro Sealmaster 580 Thermo Sealer with variable sealing times (in seconds) or equivalent equipment in the following sequence:

a. Seal areas A, B and C.

b. Insert the folded liferaft with the CO_2 cylinder operating head lanyard in "throat" position C, D.

c. Seal area E as close as possible to liferaft, to reduce bulk.

d. With a short seal fabricate a channel 1/2" x 2" at area C.

e. Seal a 1" diameter circle inside the liferaft lanyard loop (Figure 2).

f. Seal from channel (d.) to area D.

g. Install a vacuum line in channel (d.).

h. Vacuum the liferaft and vinyl bag to the prescribed dimensions, remove the vacuum line and seal the end of the channel.

j. Using a 1/2" diameter cutter, punch a hole in the 1" circle in the centre of the liferaft lanyard loop sealed area.

CF188 RSSK Drop Lanyard

The drop lanyard is 26 feet in length, being fabricated of 3/4" tubular nylon. Downwards from the CF barrel connector (NSN 4240-21-806-2705) are four loops on the lanyard. The first, at 15 feet 8 inches is the red manual activation handle (for use in an emergency should automatic liferaft inflation not be achieved). The second loop is at 16 feet and is the liferaft attachment point. The third loop at 24 feet 3 inches is the attachment point for the survival contents container and the fourth loop is the attachment point for the sleeping bag container.

Liferaft Attachment

An 8 inch length of 550 nylon cord is passed through the second loop on the drop lanyard and through the liferaft lanyard loop sealed area twice, then secured with a double reef knot and the free ends of the cord tacked with two turns of waxed nylon 6 cord, single.

Survival Contents Inner Container Attachment

A 36 inch length of 550 nylon cord is attached midpoint through the third loop with a larkshead knot. Using bowline knots, tie the free ends of the cord to loops on each side of the survival contents container. Tack the free ends of the cord with two turns of waxed nylon 6 cord, single (Figures 3, 4).

Sleeping Bag Container Attachment

A 24 inch length of 550 nylon cord is attached midpoint through the fourth loop with a larkshead knot. Using bowline knots, tie the free ends of the cord to loops on each side of the sleeping bag container. Tack the free ends of the cord with two turns of waxed nylon 6 cord, single (Figures 3, 4).

NOTE: The MLSD configuration for the survival contents inner container and the sleeping bag cover/container utilized polyurethane coated 6 ounce plain weave nylon.

Packing the Global RSSK

Prior to packing the RSSK, attach the sleeping bag, one-man liferaft and survival contents inner container to the drop lanyard in the manner described (Figure 5).

The Northface CF600 sleeping bag is supplied pressure/vacuum packed in a thermoplastic radio frequency sealed package to close tolerances - (dimensions in inches) 14.0 minus only, 9.5 minus only, 1.75 plus/minus 0.25. Before packing the RSSK this package has to be inserted into the fabric sleeping bag container (Figure 13). During the packing of all survival equipment, it is mandatory to place the sleeping bag in the RSSK lower container with the loops of the sleeping bag container facing the front of the RSSK (Figure 6). This is followed by the CF one-man liferaft (Figure 7). (It must be emphasized that the 50 cubic inch emergency oxygen cylinder almost fills the space, front to rear, on the left side of the lower container beside the liferaft.) It is mandatory to refer to Figures 6, 7, 8 and 9 during the RSSK packing procedures. Prior to inserting the survival contents inner container into the RSSK lower container, on top of the liferaft, the hanked portion of the drop lanyard (Figure 7) is stowed along the left side of the kit, the remainder of the lanyard is then routed across the back of the RSSK lower container, exiting at mid point towards the rear. The survival contents inner container is then placed in position with the U shape facing away from the packer and packed with the remainder of the survival contents (Annex A) in the following order of precedence:

a. Right hand pocket of the U shape

One package of food packet survival basic (modified)
Insect repellent stick
Leak stopper, set
Water purification tablets
Food packet survival, supp. air (modified)

Fuel tablets (flint sealed in plastic and taped thereto)
One wool/nylon sock, folded
PLB AN PRQ 501, in container

b. Left hand pocket of the U shape and area under the emergency oxygen cylinder

Desalter Kit Sea Water (modified)
Plastic bag
Survival knife
First Aid Kit
Mosquito headnet
One mitt, wool/nylon
Saw flexible

c. Area above the one-man liferaft

Kit, signalling
One package of food packet survival basic (modified)
One wool/nylon sock, folded
Eye shields, tinted
Booklet, Land and Sea emergencies
Sunburn preventative preparation
One mitt, wool/nylon

NOTE: There is very limited space between the vacuum packed liferaft and the contoured centre of the RSSK lid, when attached, therefore all items packed in this area must be placed on the periphery.

When the fabric survival contents container is packed and the zippered opening closed, the remainder of the RSSK drop lanyard is brought forward, the slack zig-zagged across the top, to exit the RSSK left side at the grommet exit slot. The RSSK upper container (lid) is then placed on top of the lower container, the hinges on front of containers are engaged, the emergency oxygen actuation cable is inserted through the hole on left thigh support, container is closed and the locking handle is engaged.

CF188 GLOBAL RSSK DEPLOYMENTS

Three subjects participated in the airborne deployment of the Global RSSK contents. Due to water temperatures (15.1 C) wet suits were worn. In each instance the subjects wore a DH 41-2 helmet and the CF2101 life preserver.

The airborne deployments of the CF188 RSSK were conducted using the CF approved para-sails and harnesses employed by the CFSTS (Sea Detachment) in conjunction with Sea Survival Training of CF aircrew. The harnesses were modified by incorporating Martin-Baker quick release fittings to accept the arrowhead connectors on the RSSK attachment straps. The subjects were fitted with the para-sail harness, all straps were properly and securely adjusted, then the rigging lines/risers of the para-sail were attached to the fitted harness. At this time the packed RSSK was also attached to the

harness. A tow line with two quick release handles from a Bertram high speed launch was then attached to D-rings on the harness of the subject who was facing into the wind with the deflated para-sail behind him (Figure 15). On a signal from the beachmaster, two assistants who were holding open the mouth of the para-sail (panels 3 and 22) let go and at the same time the launch accelerated away from the shore. In two or three steps the subject was airborne (Figures 15, 16) and towed to an appropriate release altitude (450 to 600 feet [140 to 180 meters]) above Union Bay, Comox (Figures 17, 18).

On gaining sufficient altitude, on a signal from the tow launch (orange flag being waved) the subject released himself from the tow line, conducted the prescribed CF water entry procedures, including manually inflating his life-preserver, then pulled the CF188 RSSK release handle to separate the kit halves and deploy the RSSK contents. Kit deployment can be seen in stages, terminating in perfect airborne liferaft inflation and the streaming of other kit contents on the drop lanyard. The subject continued his descent into the water, released himself from the para-sail harness and either climbed into the inflated life-raft, or was picked up by the attendant safety boat (Figures 19, 20, 21, 22, 23 and 24).

NOTE: The CF one-man liferaft design does not incorporate a "relief" valve to vent excess carbon dioxide pressure from the buoyancy chamber in the event of over-inflation. MLSD inflation tests in a hypobaric chamber at simulated altitudes of 18,000 to 25,000 feet (5500 to 7600 meters), have proven that, in the event of inadvertent liferaft inflation by an ejectee at these altitudes, no damage would occur.

In a normal CF188 RSSK deployment the lower container will fall away, being no longer required. For trial deployment purposes, an inflatable floatation collar (Figures 15, 16 and 17) externally attached to the RSSK was considered sufficient to reclaim this container after "splash down". This trial configuration was necessary to allow retention of the lower container for repeated deployments.

Five airborne deployments of the CF188 Global RSSK were successfully conducted. The deployments confirmed the effectiveness of the contents packing procedures, the routing of the drop lanyard during packing and the vacuum packed liferaft inflation concept developed by DCIEM and explored during previous static and dynamic deployment trials.

DISCUSSION

The Global concept for CF jet aircraft survival kits has been pursued over the past 20 years. This is contingent upon survival kits large enough to accommodate both the CF one-man liferaft and sleeping bag. This thinking was based on the premise that in an emergency requiring ejection over water the survivor would have a liferaft and in an over land emergency the survivor would have a sleeping bag for shelter against the elements. The original study by MLSD in 1980 indicated that the CF188 RSSK (with less packing volume than other ejection seat survival kits) could not be considered for a Global concept unless a suitable, lightweight sleeping bag, (capable of

being pressure/vacuum packed) could be identified and procured. Meanwhile, the vacuum packing techniques developed by the MLSD for the one-man liferaft enabled fitment in the RSSK. This led to production and qualification of the CF188 Maritime RSSK (NSN 1680-21-894-1434) carried in the ejection seats of CF188A/B aircraft in Canada.

In 1982 a suitable sleeping bag was identified and tested. A prototype Global RSSK concept was developed for test and qualification. Before this was concluded, the firm marketing the sleeping bag informed DCIEM that they had discontinued their pressure/packing project and could not meet the CF requirement. In 1983 the Northface CF600 sleeping bag was identified. H. Koch and Sons produced a pressure/vacuum packed sample to enable MLSD to continue the research and development which terminated with qualification of the CF188 Global RSSK in July 1984.

Some deletions/additions to the Maritime RSSK survival contents check list (L-22-440-000/LC-001) (S16-009) 11 January 1984 were necessary. The proposed Global RSSK contents check list is shown at Annex A.

In packing the survival contents, it was necessary to reduce the original package sizes of such items as the Food Packet survival basic and survival supplement air, the kit sea water desalting and the size of the metal container for the AN/PRQ 501 Personal Locator Beacon (PLB). These changes have been reflected in draft Canadian Forces Technical Orders (CFTO) submitted to NDHQ/DAS Eng.

The CF188 Global RSSK, completely packed, weighs 39 pounds. This is within the 37-42 pound weight limitation originally specified by McDonnell Aircraft Company (McAir) for the CF188 RSSK.

CONCLUSIONS

Airborne deployments of the CF188 Global RSSK concept (designed to replace the Maritime RSSK) were 100% successful, have qualified this kit for operational use and NDHQ can proceed with the acquisition.

Vacuum packing techniques for the new CF one-man liferaft and developed by MLSD have contributed greatly to effective RSSK deployments.

MLSD market research and subsequent acquisition of the Northface CF600 sleeping bag has contributed to the successful completion of the CF Global concept for the CF188 RSSK.

ACKNOWLEDGEMENTS

Appreciate is expressed to Colonel I.H. Firth and the staff of 14 Training Group Headquarters (Winnipeg) for making available the excellent resources of CFB Comox; the Base Commander Colonel W.R. Dobson and his key personnel for their support; Major P. Russell, Commandant, CFSTS (CFB Edmonton) for providing the total resources of the CFSTS Sea Survival Detachment during the trials (9-12 July 1984).

Appreciation must also be expressed to Captain N.A. Martin (AERE), Captain G.R. Gamble (PLT), MLSD Project Officers and Warrant Officer G.A. MacPherson, Safety Systems Supervisor (the trial subjects) whose dedication, enthusiasm and professional approach contributed greatly to the success of the trials.

Special mention is given to Sergeant J.M. Johnston and Master Corporal D.G. Purvis, CFSTS (Sea Det.) whose dedicated, professional and safety conscious approach to the para-sailing operation reflects great credit to the Canadian Forces Survival Training School.

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ANNEX A to
DCIEM 85-
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CF188 GLOBAL RSSK CONTENTS

STOCK NO.	DESCRIPTION	U OF I	QTY
C-22-050-003/ PT-001	Booklet, "Land and Sea Emergencies"		1
1680-21-888-5983	Container, Survival Kit		1
Nil	Cover, Fabric, Sleeping Bag		1
4220-21-739-5015	Stopper, Leak Set	SE	1
4220-21-852-2221	Cylinder, CO2, 1800 psi Max Operating, 20 CU IN Cap, W/Valve		1
4220-21-846-5886	Liferaft, One-man, Inflatable, W/Weather Canopy and Double Floor		1
8465-21-893-5327	Sleeping Bag Northface CF600, Pressure/ Vacuum Packed		1
4240-21-104-9003	Eyeshield, Protective, Tinted Lens		1
5110-21-545-4159	Knife, Pocket, 3-1/4 IN LG Blade		1
5110-00-999-4411	Saw, Flexible		1
5120-21-806-2724	Flint, 2 IN LG X 0.125 IN W x 0.125 IN TH, Sparking Metal		1
5826-21-875-2857	Beacon, Radio Set, AN/PRQ501		1
5970-21-809-4206	Insulator Washer, Round, Flat, .375 IN ID X .687 IN OD X .080 IN H		1
6135-21-875-1838	Battery, Dry, 11.2 V, 1.2 AH, Lithium, 2 Receptacle Connection, 3.120 IN H, 2.130 IN W, 1.520 IN DP		1
6545-21-116-9817	First Aid Kit, Survival, for List of Components Refer to CFP 1/2 PT 5		1
6840-21-800-8120	Off Insect Repellent, Stick		1
6850-00-252-1344	Purification Tablets, Water, (6 Per Bottle) (BP)	BT	1
8105-21-802-8134	Bag, Plastic, 15 IN X 18 IN, Flat Style		1
8415-00-261-6630	Inset Net, Head, Nylon, W/Elastic Cord and 2 Loops		1
8415-21-104-2113	Mitts, Cloth, Wool and Nylon, Work Type, Size Med	PR	1
8440-21-104-2859	Socks, Long, Wool and Nylon, Grey, Size A/A		1
4510-21-864-4754	Sunburn Preventive Preparation, 2 OZ Tube		1
8970-21-852-7278	Food Packet, Survival, Individual, 2 Food Bars, Unit QTY, Packet, 400 KG Calories		2
8970-21-852-7758	Food Packet, Survival, Supplementary, Individual, Air Environment, 400 KG Calories, Unit QTY, Pouch		1
9110-21-806-2668	Fuel, Compressed Hexamine, Tablet Form, 45 Grains per Tablet, 10 Tablets per Tube	PG	1

9920-21-846-0271	Match, Safety, Wood, 1-3/4 IN LG, Sealed in Polyethylene In Groups of 6 Matches and Packaged in Watertight Container, C/W Striking Boards		
		(A) CO	1
NIC	Container, for Radio, AN/PRQ 501 (local Manufacture 1/ACC with CFTO C-22-010-005/ CF-025) as amended		1
	Signalling Kit (CFTO C-22-342-000/MS-000) Consisting of -		1
1095-21-864-6314	Projector, Pyrotechnic, Hand, M207		1
1370-00-490-7363	L170 Signal, Illumination, Red Star		
6350-00-105-1252	Mirror, Emergency Signalling		1
7510-21-561-1533	Envelope, Transparent, Plastic)or		
7510-21-809-9966	Envelope, Transparent, Frosted)		1
8305-21-804-9964	Cloth, Duck, Cotton, Red, 36 IN W		A/R
8465-00-265-4925	Box, Match, Waterproof, Plastic, Olive Drab, Cylindrical Shape, Screw Cap Closure, W/Disk Type Abrasive Paper Inside Cap		1

NOTE

a. Each 12 matches, consisting of two sealed polyethylene pouches containing 6 matches each and 1 striker board sealed in a polyethylene pouch are to be stowed in the waterproof container NSN 8460-00-265-4925 component of the signalling kit.

FIGURE CAPTIONS

CF188 RSSK PACKING PROCEDURES

1. CF188 Rigid Seat Survival Kit

2. CF one-man liferaft lanyard

3. Larkshead Knot - drop lanyard

4. Bowline Knot - attaches the survival contents inner container and sleeping bag container.

5. Integrated Global Survival Contents configuration attachment to the RSSK drop lanyard

6. Sleeping Bag attached to the drop lanyard, in bottom of the RSSK lower container. (Note configuration of the drop lanyard stowage.)

7. Vacuum-packed CF One-man Liferaft, attached to the drop lanyard, on top of the sleeping bag in the RSSK lower container (Note the drop lanyard stowage on left side of the RSSK lower container.)

8. Survival Contents inner container prior to packing the remainder of the survival contents. (Note the hanked drop lanyard stowage on the front and left sides of the RSSK lower container.)

9. Survival Contents inner container prior to packing the remainder of the survival contents. (Note the hanked drop lanyard stowage across the front of the RSSK lower container.)

10. Northface CF600 Arctic Survival Sleeping Bag - out of thermoplastic container.

11. Northface CF600 Arctic Survival Sleeping Bag - pressure/vacuum packed.

12. Northface CF600 Arctic Survival Sleeping Bag (instructions for use)

13. Fabric Container for the pressure/vacuum packed Northface CF600 sleeping bag.

14. Survival Contents Fabric Inner Container (Top)

14A. Survival Contents Fabric Inner Container (Bottom)

CF188 RSSK DYNAMIC DEPLOYMENTS

15. Subject ready for para-sail launch

16. Subject being launched

17. Subject gaining altitude

18. Subject at point of release from tow

19. Activation of CF188 kit release handle

20. RSSK contents on the drop lanyard and start of liferaft inflation

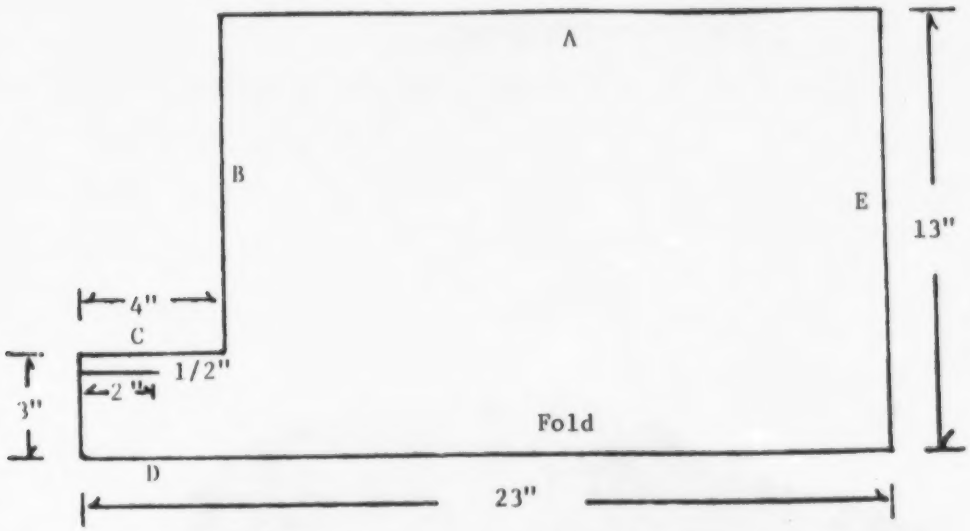
21. Inflated liferaft/survival contents/sleeping bag fully deployed.

22. Preparation for water landing

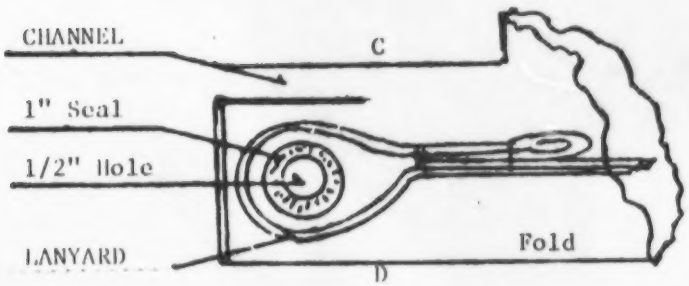
23. Touchdown

24. Subject at point of release from para-sail harness prior to pick-up by safety boat

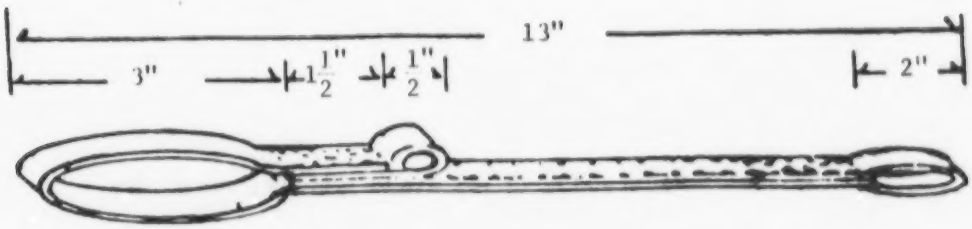
Figure 1. CF188 Rigid Seat Survival Kit



12 ML VINYL BAG



LANYARD SEALED AREA



LANYARD

Figure 2. Vinyl "tear away" bag which envelopes the vacuum packed CF one-man liferaft; CO2 operating head-lanyard dimensions; lanyard sealed area.

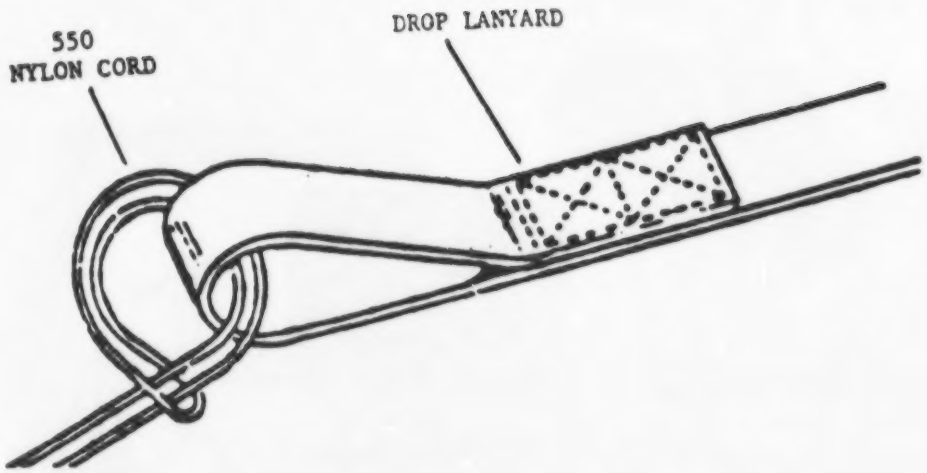


Figure 3. Larkshead Knot - drop lanyard

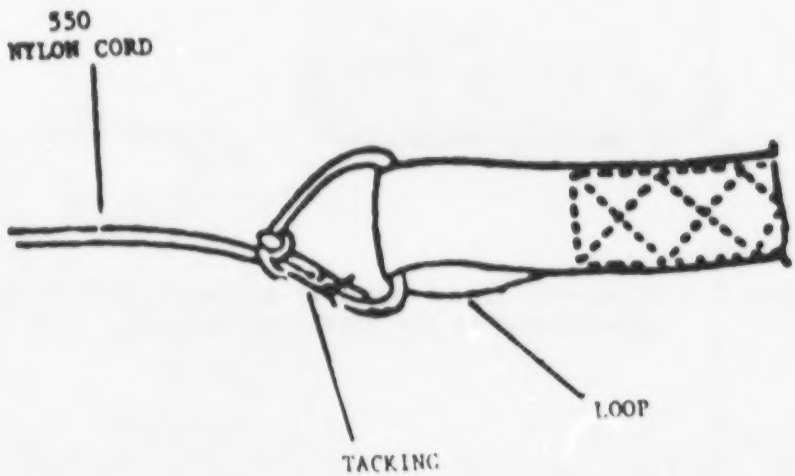


Figure 5. Integrated Global survival contents configuration attachments to the RSSK drop lanyard

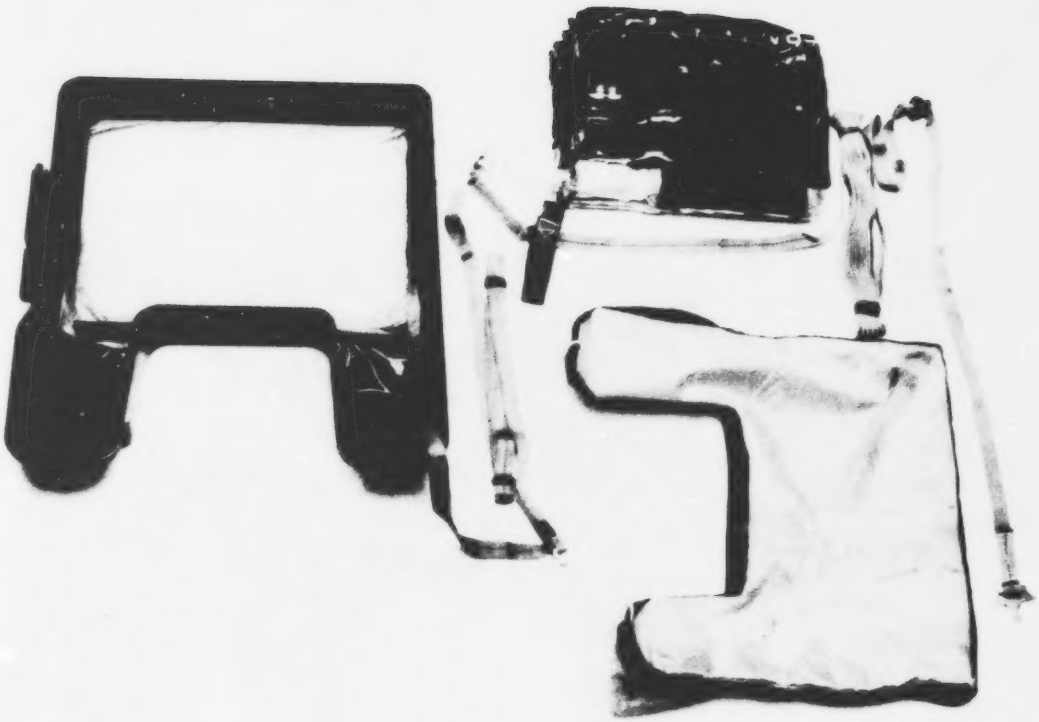


Figure 6. Sleeping bag attached to the drop lanyard, in bottom of the RSSK lower container (Note configuration of the drop lanyard stowage.)

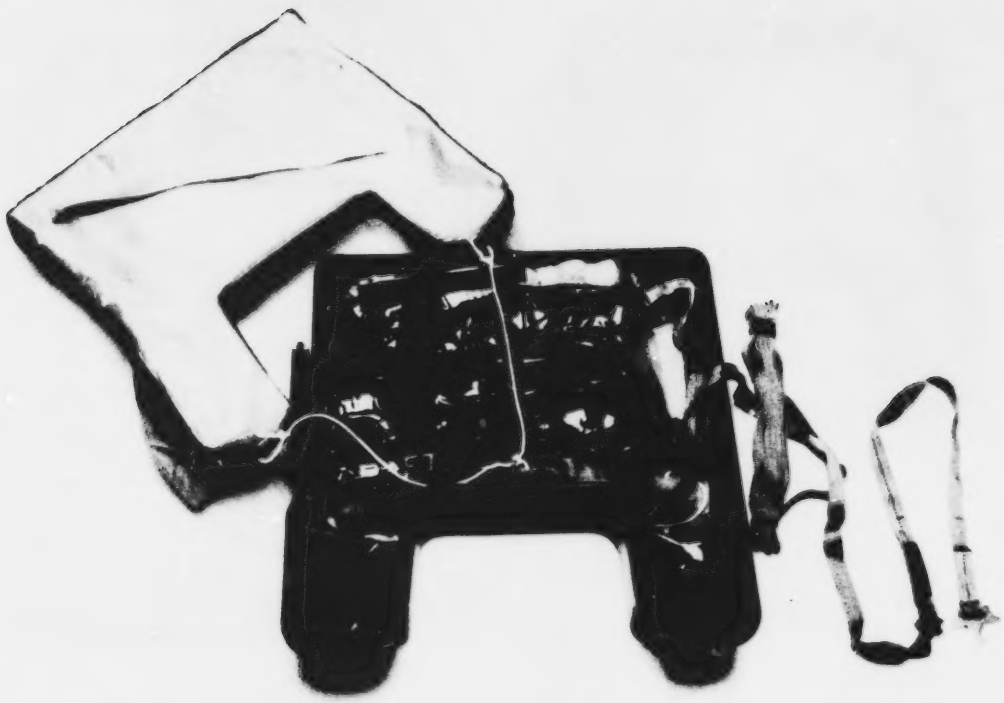


Figure 7. Vacuum-packed CF one-man liferaft, attached to the drop lanyard, on top of the sleeping bag in the RSSK lower container (Note the drop lanyard stowage on left side of the RSSK lower container.)

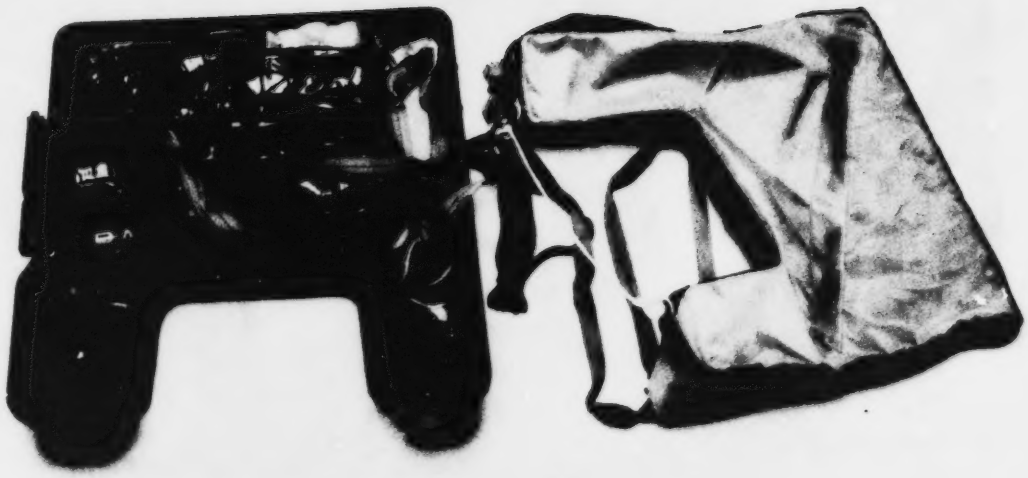


Figure 8. Survival contents Inner Container prior to packing the remainder of survival contents. (Note the hanked drop lanyard stowage on the front and left sides of the RSSK lower container.)

Figure 9. Survival contents inner container prior to packing the remainder of survival contents. (Note the hanked drop lanyard stowage across the front of the RSSK lower container.)

Figure 10. Northface CF600 arctic survival sleeping bag - out of thermoplastic container

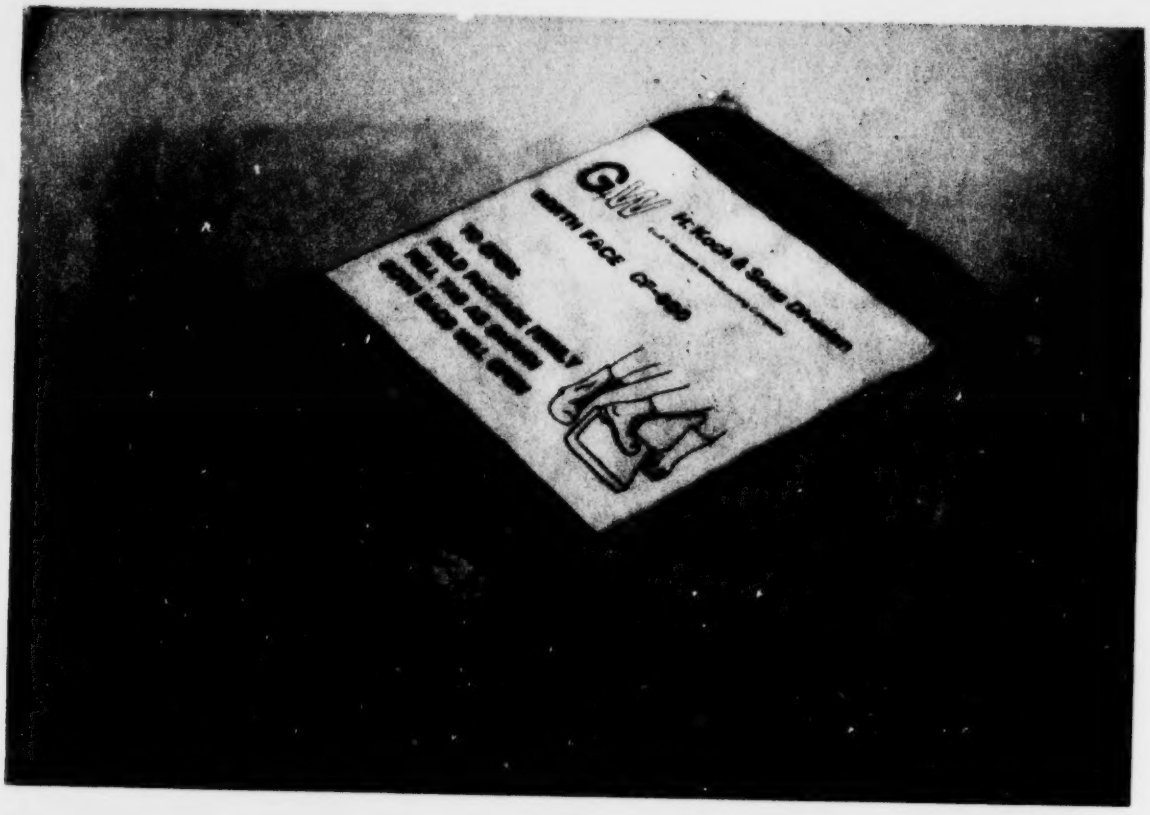


Figure 11. Northface CF600 arctic survival sleeping bag - pressure/vacuum packed

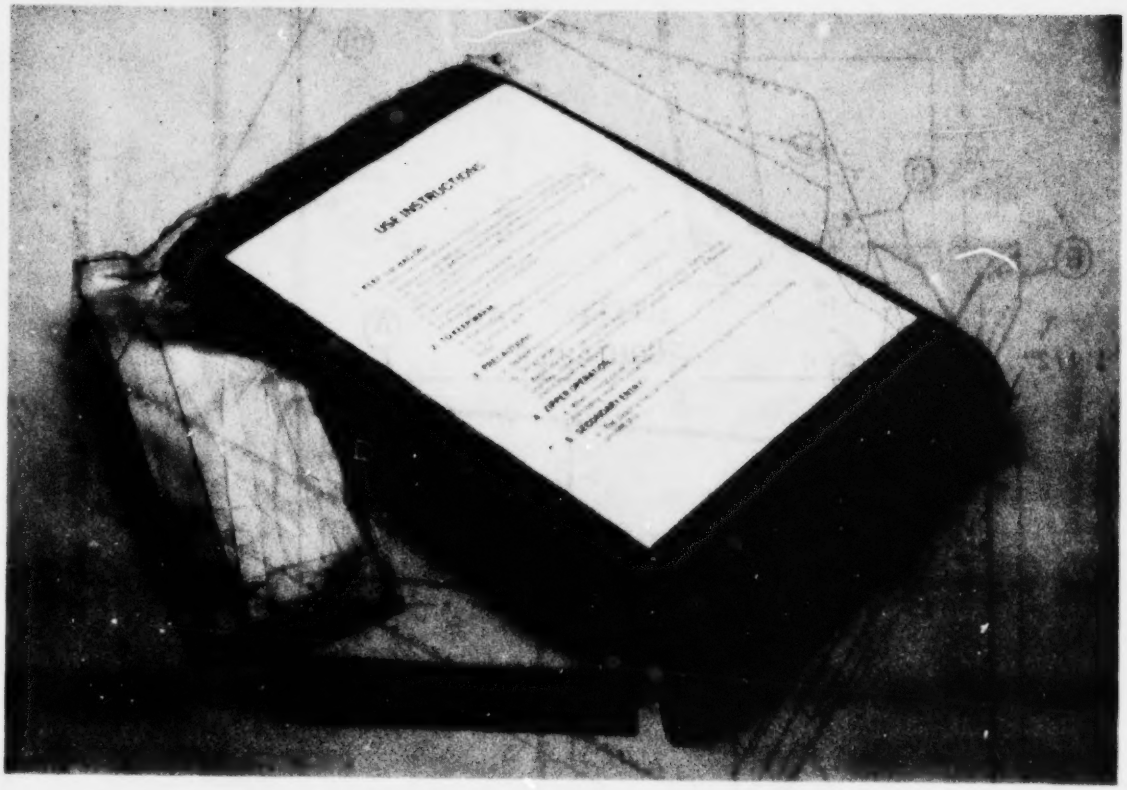
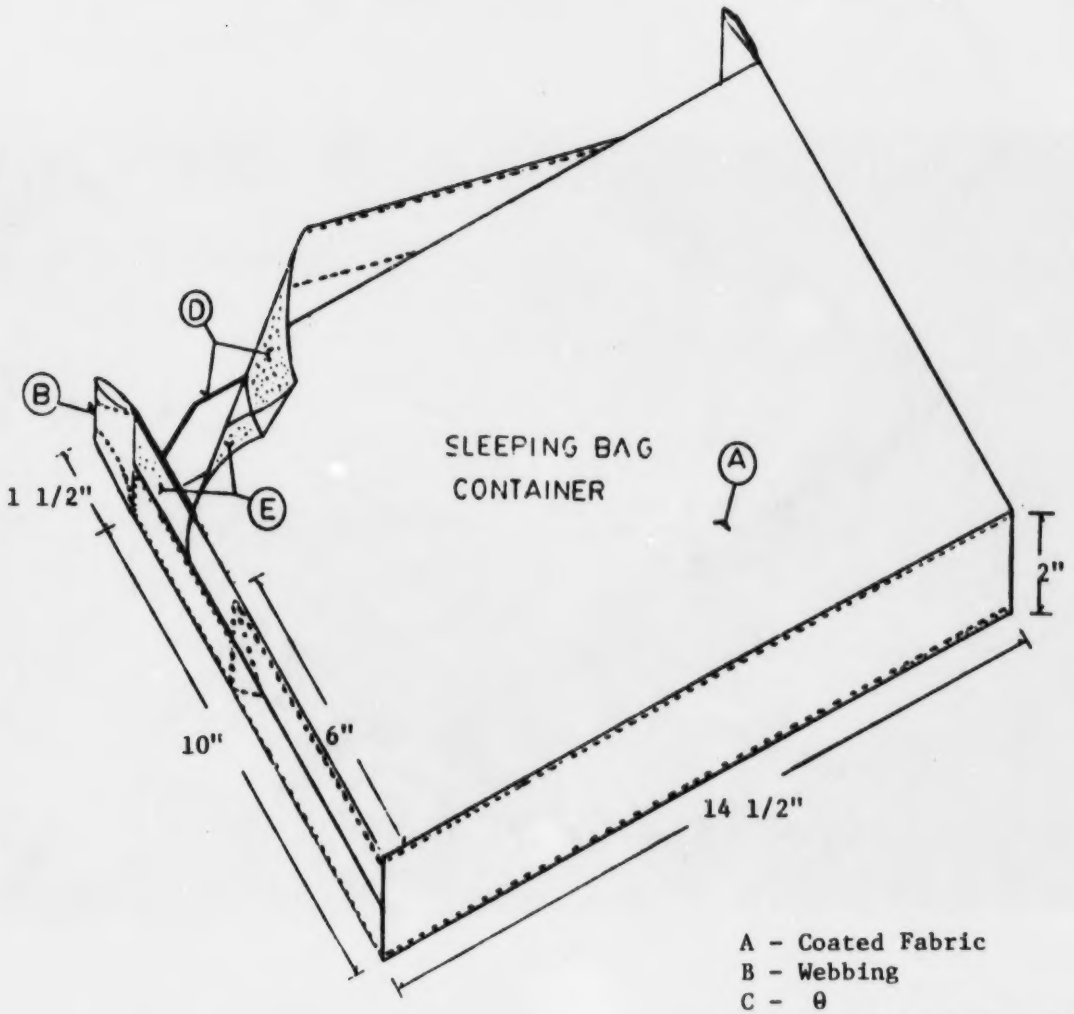


Figure 12. Northface CF600 arctic survival sleeping bag (Instructions for use)

CF188 GLOBAL RSSK SLEEPING BAG CONTAINER



A - Coated Fabric
B - Webbing
C - θ
D - 1" Velcro Hook & Pile
E - 5/8" Velcro Hook & Pile

Figure 13

CF-188 GLOBAL RSSK INNER CONTAINER

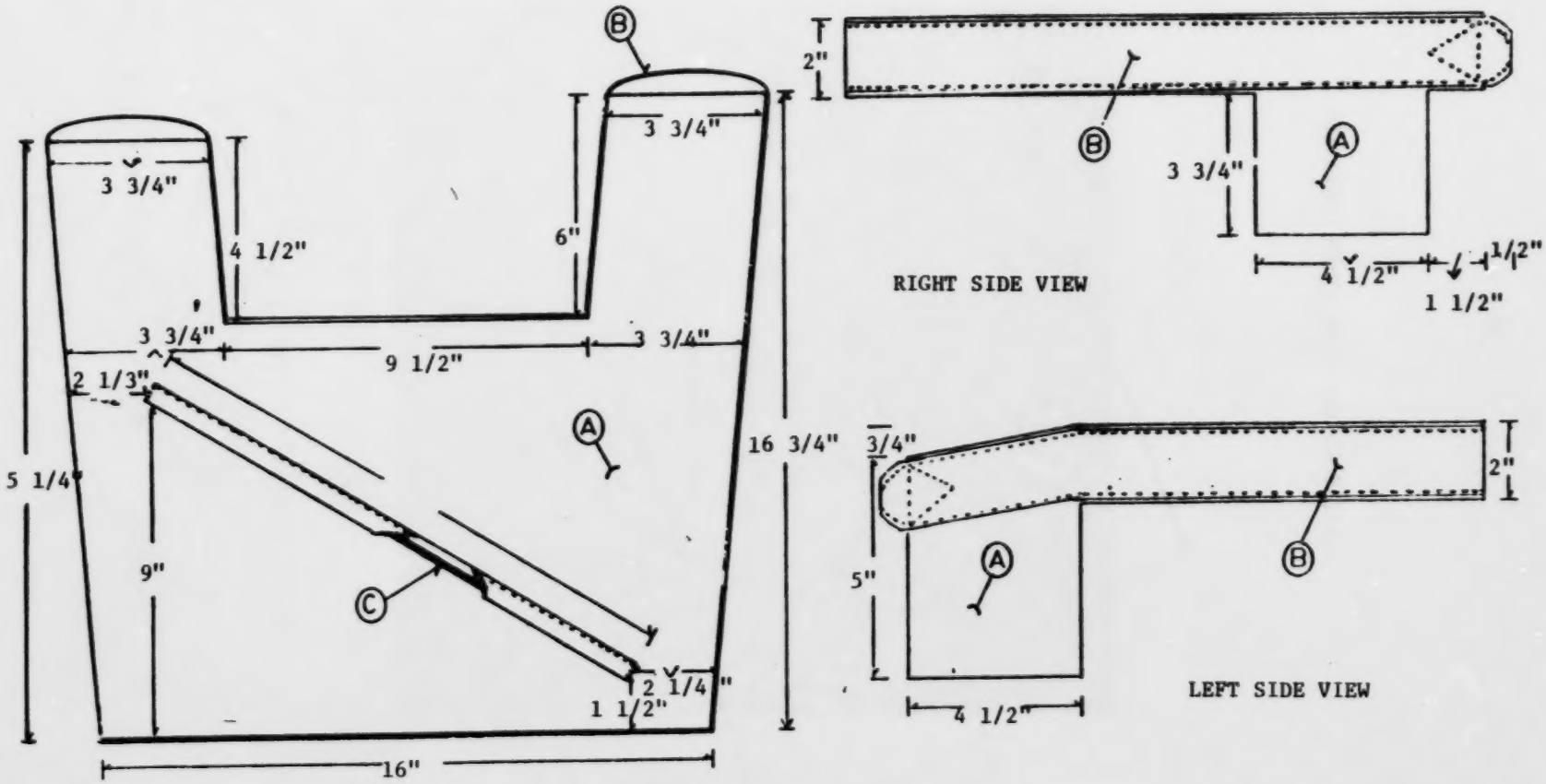
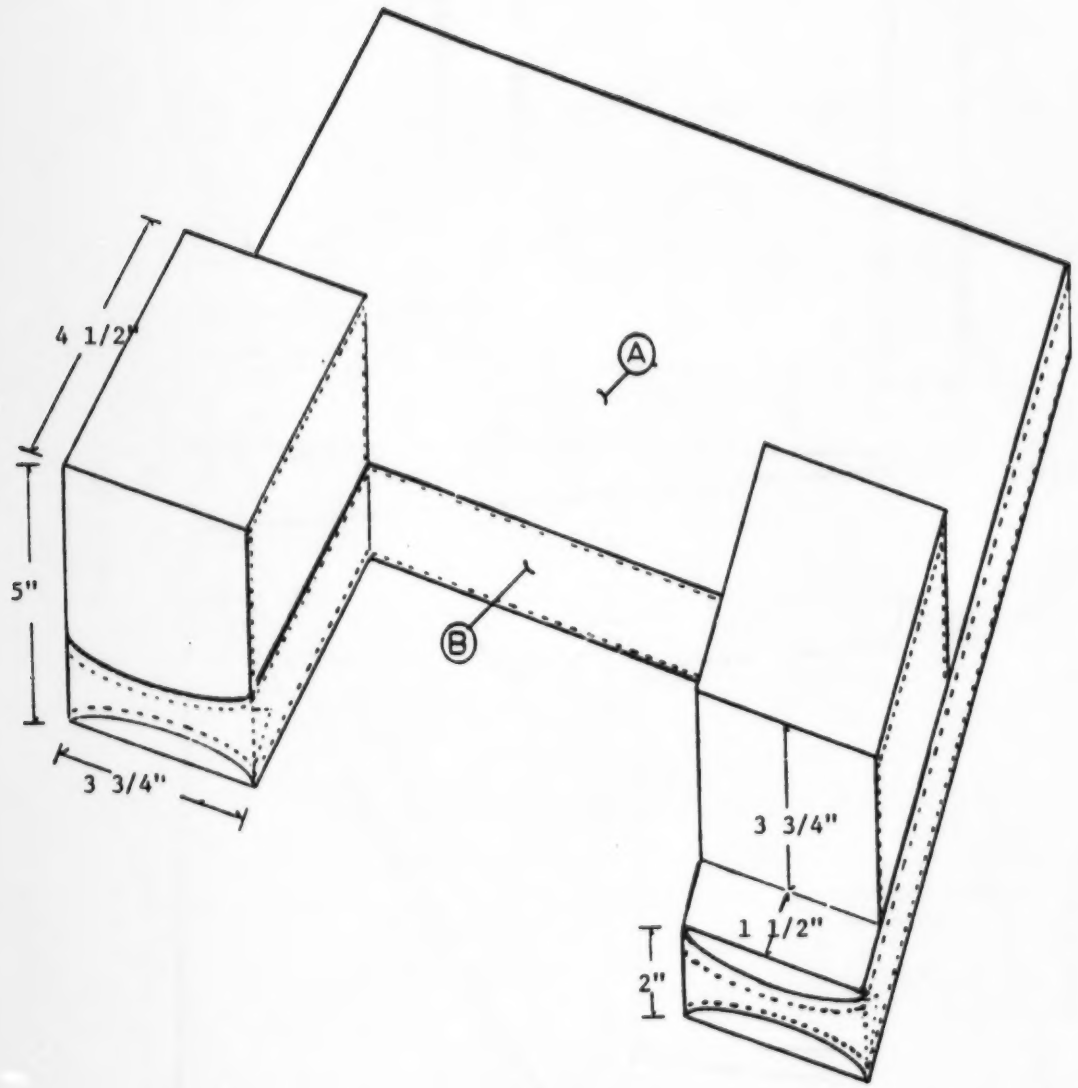


Figure 14

CF-188 GLOBAL RSSK INNER CONTAINER



A - Coated Fabric
B - Webbing

Figure 14A

Figure 15. Subject ready for para-sail launch

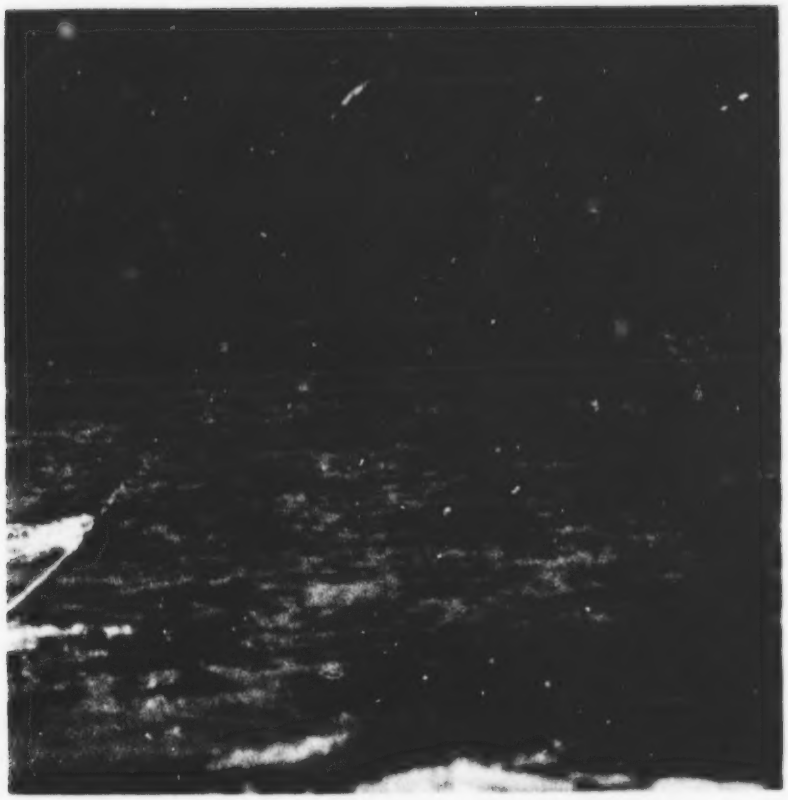


Figure 16. Subject being launched

Figure 17. Subject gaining altitude

Figure 18. Subject at point of release from tow

Figure 19. Activation of CF188 kit release handle

Figure 20. RSSK contents on the drop lanyard and start of liferaft inflation

Figure 21. Inflated liferaft/survival contents/sleeping bag fully deployed

Figure 22. Preparation for water landing

Figure 23. Touchdown

Figure 24. Subject at point of release from para-sail harness prior to pick up by safety boat

DEFENCE AND CIVIL INSTITUTE OF ENVIRONMENTAL MEDICINE
1133 Sheppard Ave West, PO Box 2000, Downsview, Ontario, Canada
Telephone (416) 635-2000